Name _____ Quarter 2

Pre-Calculus Test 3 - Review

Show all work on a separate sheet of paper. Make sure to study your notes and homework as well.

1. Sketch each function using a minimum of 2 points. For each graph, state the domain, range, intercepts, and the equations of any asymptotes.

   a. $y = \dfrac{1}{(x+4)^2} - 2$

   b. $y = -\dfrac{1}{x+2}$

   c. $y = \dfrac{1}{-(x+3)} + 1$

   d. $y = -\dfrac{3}{x^2}$

2. Sketch each function. For each graph, state the domain, range, intercepts, coordinates of any holes, and the equations of any asymptotes.

   a. $y = \dfrac{x^3 - 1}{x - 1}$

   b. $y = \dfrac{x - 4}{x^2 - 16}$

   c. $y = \dfrac{x^3 - 3x^2 - 4x + 12}{3 - x}$

   d. $y = \dfrac{2 - 5x - 3x^2}{x + 2}$

3. Write the complete factorization, find all zeroes, and sketch each of the following polynomials, clearly indicating ALL intercepts: (Use the template on the back of the page to help)

   a) $f(x) = x^4 + 2x^3 - 13x^2 - 38x - 24$

   b) $f(x) = 2x^4 + 3x^3 - x$

Polynomial
Possible Rational Zeros
Work
Complete Factorization
Complete Solution Set
Sketch